Appl. No. 09/944,946
Amdt. sent September 13, 2004
Response to Notice of Allowance June 14, 2004

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## Amendment to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

## Listing of Claims:

1          1.          (Original):  A computer system comprising a plurality of computers, a
2    storage control apparatus connected with the plurality of computers on a channel path and for
3    performing input and output through the channel path, and a storage device under the control of
4    the storage control apparatus for storing input/output data of the computers;
5                    wherein said storage control apparatus classifies the plurality of channel ports of
6    the storage control apparatus to which the channel path is connected into priority channel ports
7    and non-priority channel ports, so that channel ports defined as priority channel ports carry out
8    I/O processing without suppressing the processing of I/O from the computers; and
9                    channel ports defined as non-priority channel ports are given a target value in I/O
10    process units and carry out processing while performing feedback control so that I/O processing
11    from the computers approaches the I/O process units; and
12                    wherein the storage control apparatus controls the level of the influence of the
13    non-priority channel port I/O processing on priority channel port I/O processing.

1          2.          (Original):  The computer system according to claim 1, wherein the
2    storage control apparatus defines a target value of I/O processing units for the priority channel
3    ports, and carries out I/O processing at the non-priority channel ports while performing feedback
4    control so that the I/O processing of the priority channel ports approaches the target value in I/O
5    process units; and the storage control apparatus controls the level of the influence of the non-
6    priority channel port I/O processing.

1          3.       (Original):  The computer system according to claim 1, wherein the

2     storage control apparatus determines, when the I/O frequency of the channel port set as a priority

3     channel port is less than the threshold value, a threshold value for not suppressing I/O processing

4     of non-priority channel ports and does not suppress I/O processing of the non-priority channel

5     port, whereby the I/O processing capacity of the storage control apparatus is sustained.


1          4.       (Original):  The computer system according to claim 2, wherein the

2     storage control apparatus determines, when the I/O frequency of the channel port set as a priority

3     channel port is less than the threshold value, a threshold value for not suppressing I/O processing

4     of a non-priority channel port and does not suppress I/O processing of the non-priority channel

5     port, whereby the I/O processing capacity of the storage control apparatus is sustained.


1          5.       (Original):  The computer system according to claim 1, wherein the

2     storage control apparatus classifies hosts into priority hosts and non-priority hosts in units of

3     computers sending I/O processing requests to the storage control apparatus, or in computer path

4     units such as a World Wide Name, and executes I/O processing of non-priority hosts while

5     performing feedback control so that the I/O processing of the non-priority hosts approaches the

6     I/O process units within a single channel port and among channel ports; and the storage control

7     apparatus controls the level of influence of non-priority host I/O processing on priority host I/O

8     processing.


1          6.       (Original):  The computer system according to claim 1, wherein the

2   .  storage control apparatus classifies devices into priority devices and non-priority devices in units

3     of storage devices performing I/O processing within the storage control apparatus, and executes

4     I/O processing of non-priority devices while performing feedback control so that the I/O

5     processing of the non-priority devices approaches the target I/O processing unit; and controls the

6     level of influence of non-priority device I/O processing on priority device I/O processing.

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1          7.      (Original): The computer system according to claim 6, wherein the

2 storage control apparatus classifies the storage area in the storage device into priority and non-

3 priority areas, and executes the I/O processing of non-priority areas while performing feedback

4 control so that the I/O processing of non-priority area approaches the target I/O processing unit;

5 and controls the level of influence of non-priority area I/O processing on priority area I/O

6 processing.

1          8.      (Previously presented): A storage system comprising:

2          a storage control apparatus including a plurality of ports connected with a

3 plurality of computers and a controller for controlling the I/O from the computers; and

4          a storage apparatus including a plurality of storage devices for storing I/O from

5 the computers received by the storage control apparatus;

6          wherein the controller is provided with a priority information table holding one of

7 a priority or a non-priority value for each of the ports, the priority information table further

8 including a predefined time; and

9          wherein I/O through a port that is associated with a priority value is processed in

10 priority fashion such that the start of I/O processing through ports that are associated with non-

11 priority values are delayed by said predefined time.

1          9.      (Previously presented): A storage system comprising:

2          a storage control apparatus including a plurality of ports connected with a

3 plurality of computers and a controller for controlling the I/O from said computers; and

4          a storage apparatus constituted by a plurality of storage devices for storing I/O

5 from the computers received by said storage control apparatus;

6          wherein the controller is provided with a priority information table containing a

7 priority or non-priority value for each of the computers, the priority information table further

8 including a predefined time; and

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9            wherein I/O from a computer that is associated with a priority value is processed

10     in priority fashion such that the start of I/O processing from computers that are associated with

11     non-priority values are delayed by said predefined time.

1               10.      (Previously presented): A storage system comprising:

2            a storage control apparatus including a plurality of ports connected with a

3     plurality of computers and a controller for controlling the I/O from the computers; and

4            a storage apparatus including a plurality of storage devices for storing I/O from

5     the computers received by the storage control apparatus;

6            wherein the controller is provided with a priority information table containing one

7     of a priority or non-priority value for each of the storage device units, the priority information

8     table further including a predefined time; and the priority information table causes delays by a

9     predefined time of the start of I/O processing for storage devices having non-priority values in

10     the priority information table.

11            wherein I/O with a storage device unit that is associated with a priority value is

12     processed in priority fashion such that the start of I/O processing with storage device units that

13     are associated with non-priority values are delayed by said predefined time.

              11 - 12.      (Canceled)